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GEOPHYSICAL ABSTRACTS

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GEOPHYSICAL ABSTRACTS[1]

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– Senior physicist, U. S. Bureau of Mines.

This information circular contains abstracts by W. Ayvazoglou from original German patents concerning electrical methods of geophysical prospecting only. All patents issued since 1904 are considered.

Abstracts from German patents concerning other methods of geophysical prospecting will be published in special issues of Geophysical Abstracts appearing later.

Copies of the patents listed in this circular may be procured from Deutsches Reich, Reichspatentamt, Berlin, Germany.

4. ELECTRICAL METHODS

(240) VERFAHREN ZUR AUFFINDUNG UND BESTIMMUNG VON ERZLAGERN

(METHOD FOR DISCOVERING AND DETERMINING ORE DEPOSITS)

The Electrical Ore Finding Co., Ltd.,
of London

152,519 Patent issued July 5, 1904.

This invention relates to a method for discovering ore and other mineral deposits. It is characterized by the possibility of determining the property and the position of the deposit by means of sound produced in a telephone receiver inserted between two portable electrodes and by which a contact with the surface of the earth is established, while the variable electric current impulses are sent through the ground from an induction coil by means of another pair of portable electrodes.

The whole arrangement consists of (1) an induction coil, (2) a telephone-receiver, and (3) four electrodes for the establishment of earth connections.

Claims allowed - 1.

(241) VERFAHREN ZUR SYSTEMATISCHEN ERFORSCHUNG DES ERDINNERN GRÖSSERER GEBIETE MITTELS ELEKTRISCHER WELLEN

(METHOD OF SYSTEMATIC EXPLORATION OF THE SUBSOIL OVER LARGE AREAS BY MEANS OF ELECTRICAL WAVES)

Dr. Gotthelf Leimbach and Dr. Heinrich Löwy
of Göttingen

237,944 Patent issued Sept. 14, 1911.

The patent discloses a method for locating hidden ore deposits by the erection on the area to be explored (level country, mountains, islands) of antennae by which the electrical waves are emitted, or received. On a level terrain about 200 meters deep holes are drilled in which the antennae wires are inserted. In mountainous regions the antennae are erected at the foot of mountains. In case of the exploration of islands the antennae wires are sunk in the water from ships.

Claims allowed - 1.

(242) VERFAHREN ZUM NACHWEIS UNTERIRDISCHER ERZLAGER ODER VON GRUNDWASSER MITTELS ELEKTRISCHER WELLEN

(METHOD FOR DETERMINING SUBTERRANEAN ORE DEPOSITS OR UNDERGROUND WATER BY MEANS OF ELECTRICAL WAVES)

Dr. Heinrich Löwy and Dr. Gotthelf Leimbach
of Göttingen)

246,836 Patent issued May 11, 1912.

The method described in this patent consists of an arrangement by which electrical waves are emitted from the antenna of a sending system established on the surface of the ground. After the reflexion of these waves from the subterranean body the latter is disclosed by the receiving station, also provided with an antenna.

Claims allowed - 1.

(243) VERFAHREN ZUR ERFORSCHUNG VON GESTEINSSCHICHTEN INNERHALB VON BERGWERKEN

(METHOD OF EXPLORATION OF ROCK-LAYERS WITHIN MINES)

Dr. Heinrich Löwy of Göttingen

254,478 Patent issued Dec. 6, 1912.

This patent discloses a method for exploration of rock-layers within the mines by producing inside of drifts and boreholes electrical resonance currents and measuring there their capacity (frequency) and damping.

Claims allowed - 1.

(244) VERFAHREN ZUM NACHWEIS UNTERIRDISCHER ERZLAGER UND GRUNDWASSERSPIEGEL MITTELS ELEKTRISCHER WELLEN

(METHOD FOR DETERMINING SUBTERRANEAN ORE DEPOSITS AND THE LEVEL OF UNDERGROUND WATER BY MEANS OF ELECTRICAL WAVES)

Dr. Heinrich Löwy of Göttingen

254,517 Patent issued Dec. 6, 1912.

According to this patent, subterranean ore deposits and the level of underground water may be disclosed by observation of the interference, in a receiving antenna stretched horizontally close above the ground, of electrical waves which are produced in a sending antenna running parallel to the receiving antenna, the waves being received partly directly and partly after their reflection from the subterranean ore deposit (or from the level of the ground water).

Claims allowed - 1.

(245) VERFAHREN ZUR BESTIMMUNG DER BESCHAFFENHEIT DES ERDBODENS MITTELS ELEKTRIZITÄT

(METHOD FOR DETERMINING THE CHARACTER OF THE SOIL BY MEANS OF ELECTRICITY)

Conrad Schlumberger of Paris

269,928 Patent issued Feb. 5, 1914.

This patent discloses a method for determining the character of the soil by the following series of steps: (1) Obtaining around two points (electrodes) on the surface of the earth, of equipotential curves and comparing them with equipotential curves determined theoretically for homogeneous ground; (2) determining equipotential curves produced by polarization at the borders of an ore deposit; (3) preventing disturbances caused by earth currents, polarization of electrodes, etc., by periodical commutation of the current flowing between the electrodes; (4) determining the potentials of the ground by means of a movable line in which a galvanometer is included, the line being provided at both ends with metallic rods inserted into a porous receptable filled with a concentrated solution of copper sulphate or a similar salt, in order to establish a nonpolarizing earth-connection; (5) determining the relative potential drop between the equipotential curves with respect to the potential drop between two fixed points on the ground by means of a suitable method of measurement (Wheatstone bridge).

Claims allowed - 5.

(246) VERFAHREN ZUR BESTIMMUNG DER BESCHAFFENHEIT DES ERDBODENS MITTELS ELEKTRIZITÄT

(METHOD FOR DETERMINING THE CHARACTER OF THE SOIL BY MEANS OF ELECTRICITY

Conrad Schlumberger of Paris

272,603 Patent issued April 6, 1914

This is an addition to patent 269,928 concerning the same subject. The method is characterized by determining equipotential curves which result from polarization currents produced by ore deposits and metallic masses hidden in moist ground, without being influenced by artificial sources of current.

Claims allowed - 1.

(247) VERFAHREN ZUR AUFSUCHUNG LEITENDER FLÄCHEN (Z. B. WASSER UND ERZ) MITTELS ELEKTRISCHER WELLEN

(METHOD FOR EXPLORATION CONDUCTING SURFACES (FOR EXAMPLE WATER AND ORE) BY MEANS OF ELECTRIC WAVES)

Dr. Gotthelf Leimbach of Göttingen

273,339 Patent issued April 24, 1914.

The method described is characterized by determining that length of a wave by which a sender, provided with one or several antennae running approximately parallel to the conducting surface, shows minimum damping, in which case one-fourth of the length of the wave or an odd multiple of it is equal to the distance of the antennae from the conducting surface.

(248) VERFAHREN ZUR FESTSTELLUNG DES VERLAUFS VON ERDBOHRUNGEN

(METHOD FOR DETERMINING THE COURSE OF BOREHOLES)

Erforschung des Erdinnern G.m.b.H., Hannover
Geschäftsstelle Göttingen in Gottingen

287,610 Patent issued Sept. 28, 1915.

The method for determining the course of boreholes, described in this patent, is characterized by an arrangement in which the metallic parts which may be found in the boreholes, especially the metallic tubing of, for example, two adjacent boreholes, are connected to an alternating current generator, so that they form the coating of a condenser the dielectric of which represents the intermediate ground. By measuring and determining the capacity, resistance, and self-induction the distance between the coatings of the condensers, that is, the distance between the two boreholes, is determined.

Claims allowed - 1.

(249) VERFAHREN ZUR ERFORSCHUNG VON GESTEINSCHICHTEN DURCH ELEKTRISCHE MESSUNGEN

(METHOD FOR EXPLORATION OF ROCK LAYERS BY MEANS OF ELECTRICAL MEASUREMENTS)

Erforschung des Erdinnern G.m.b.H., Hannover
Geschäftsstelle Göttingen in Göttingen

287,611 Patent issued Sept. 25, 1915.

This patent disclosed a method for electrical measurements by which the resistance of rock layers is determined with the aid of electrodes, buried in the rock, applying alternating current of suitable frequency

Claims allowed - 1.

(250) VERFAHREN ZUR AUFFINDUNG UNTERIRDISCH ODER VERDECKT VERLEGTER METALLISCHER KABEL ODER ROHRSTRÄNGE MIT HILFE SCHNELLER ELECTRISCHER SCHWINGUNGEN

(METHOD FOR DISCOVERING METALLIC CABLES OR PIPE-LINES BURIED IN THE GROUND OR PLACED UNDER SHELTER BY MEANS OF RAPID ELECTRICAL OSCILLATIONS)

Dr. Max Dieckmann of Gräfeling near Munich

303,912 Patent issued Sept. 29, 1919.

The method is characterized by the transmission, from a generating system to the conductor sought for, of high-frequency energy by means of coupling so that the high-frequency field produced around the conductor can be determined by means of an indicator of which the sensitivity of oscillations is either adjusted or not adjusted.

Claims allowed - 1.

(251) EINRICHTUNG ZUR AUFFINDUNG UNTERIRDISCHER ODER VERDECKT LIEGENDER, GUTLEITENDER GEGENSTÄNDE

(METHOD FOR FINDING SUBTERRANEAN OR SHELTERED OBJECTS OF GOOD CONDUCTIVITY)

Gesellschaft für drahtlose Telegraphie m.b.H. in Berlin

305,574 Patent issued Sept. 9, 1919.

This method is characterized by an oscillating system with a cathodic generator, an induction coil with a strong leakage field connected to it, and an arrangement for noticing the frequency changes of a resonance current which are caused when the induction coil is brought into proximity with the conducting body. Another feature of the invention consists of an arrangement for producing auxiliary oscillations which, combined with the original oscillations, result in an interference sound, so that the frequency change can be perceived either as a sound or as a change of the sound.

Claims allowed - 2.

(252) VERFAHREN UND VORRICHTUNG ZUM NACHWEIS UNTERIRDISCHER ERZLAGER ODER VON GRUNDWASSER MITTELS ELEKTRISCHER SCHWINGUNGEN

(METHOD AND ARRANGEMENT FOR DETERMINING SUBTERRANEAN ORE DEPOSITS OR UNDERGROUND WATER BY MEANS OF ELECTRICAL OSCILLATIONS)

Konstantin Schilowsky of Davos-Dorf, Switzerland

322,040 Patent issued June 19, 1920.

The invention discloses a method by which long waves are emitted over large subterranean areas to great distances in a horizontal direction, as well as in depth, by means of a sending apparatus (for example an antenna sender); the wave energy produced by these waves, after having met an orebody and being scattered by it, is caught on the surface in the proximity of the deposit by means of portable receiving apparatus, the latter being protected from the effect of the primary field of the sending apparatus.

The receiving apparatus serving for catching the energy scattered by the orebody consists of closed resonance currents with large-diameter solenoids; these solenoids are protected from the effect of the primary waves emitted by the sender by arranging them so that their area of turn coincides with the direction of the magnetic vector of the primary waves.

Claims allowed - 2.

(253) EINRICHTUNG ZUR AUFFINDUNG UND FESTSTELLUNG VERBORGENER ODER UNZUGÄNGLICHER METALLE

(METHOD FOR DISCOVERING AND DETERMINING HIDDEN OR INACCESSIBLE METALS)

Dr. Max Reithoffer of Vienna

326,467 Patent issued Sept. 29, 1920.

The method considered in this patent is characterized by mutual connection of resonance coils, traversed by alternating currents of low and high frequency, in such a manner that the changes caused by introduction of metallic masses into the electrical or magnetic field of one or two of these coils of the value equal to the induced or the effective ohm's resistance (damping) or of the natural frequency of the coils concerned, result in potential differences which can be measured or observed by known methods.

Claims allowed - 5.

(254) VORRICHTUNG ZUM ENTDECKEN UND BESTIMMEN DER LAGE VON ERZ-ODER MINERALGÄNGEN AUF ELEKTRISCHEM WEGE

(METHOD FOR DISCOVERING AND DETERMINING THE POSITION OF ORE DEPOSITS AND MINERAL DEPOSITS BY ELECTRICAL METHODS)

Hans Torkel Fredrick Lundberg and Harry Johan Hjalmar Nathorst
of Stockholm

328,835 Patent issued Nov. 8, 1920.

The arrangement disclosed in this patent consists of two pairs of electrodes; one of them is connected with the source of the current (primary electrodes) and the other (secondary electrodes, called searching rods) is provided with a sensitive receiver, for example, a telephone; the secondary electrodes are brought into connection with the ground at different places between the primary electrodes. The arrangement of the two primary electrodes (or only one of them) is proposed in the form of points lying along a straight line or a curve--for example, in the form of a bare wire placed on the surface of the ground. It is very important that the extension occupied by the electrode (or electrodes) along the surface of the ground be great in comparison with the distance between the electrodes, as only in this case will the equipotential lines be straight lines or elongated curves.

Claims allowed - 1.

(255) VORRICHTUNG ZUM AUFFINDEN VON ELEKTRISCH LEITENDEN, DEM AUGE DURCH NICHTLEITER VERBORGENER KÖRPERN

(METHOD FOR DISCOVERING BODIES CONDUCTING ELECTRICITY, HIDDEN FROM SIGHT BY NONCONDUCTORS)

Ludwig Machts of Marburg, Lahn

330,090 Patent issued Dec. 7, 1920.

The patent discloses a method by which electric waves reflected by bodies conducting electricity are, after reflection, collected by a receiving apparatus. The method is characterized by an arrangement by which the reflected waves are united (similar to light waves) by means of a lens into a picture invisible to the eye; this picture is received automatically by a spiral antenna; the more or less strong induction currents produced in the latter are intensified by means of tubular receivers and intensifying lamps--for example, with the aid of a discharge line running synchronously to the antenna; the luminous discharges are projected upon a film and reproduced on it photographically; conclusions on the distribution of the conducting body can be drawn from the differences in the intensity of brightness of the films.

Claims allowed - 1.

(256) VERFAHREN ZUR FESTSTELLUNG VON ERZ-WASSER-ODER ANDEREN BODENSCHICHTEN MIT EINER VON DER UMGEBUNG ABWEICHENDEN ELEKTRISCHEN LEITFÄHIGKEIT MITTELS ELEKTRISCHER WELLEN

(METHOD FOR DETERMINING, BY MEANS OF ELECTRICAL WAVES, ORE LAYERS, WATER LEVELS AND OTHER SUBTERRANEAN LAYERS, THE ELECTRICAL CONDUCTIVITY OF WHICH IS DIFFERENT FROM THAT OF MATERIALS SURROUNDING THEM)

Eduard Raven of Gelsenkirchen

331,426 Patent issued Jan. 7, 1921.

The patent discloses a method in which the electric waves are emitted from two radio stations through the ground toward a common receiving station; from the sound picture received in the latter the nature and the extension of the disturbing body lying in the path of the waves can be determined.

Claims allowed - 1.

(257) VERFAHREN ZUR FESTSTELLUNG VON ERZ-WASSER-ODER ANDEREN BODENSCHICHTEN MIT EINER VON DER UMGEBUNG ABWEICHENDEN ELEKTRISCHEN LEITFÄHIGKEIT MITTELS ELEKTRISCHER WELLEN UND REFLEXION DERSELBEN

(METHOD FOR DETERMINING, BY MEANS OF ELECTRICAL WAVES AND REFLECTION, ORE LAYERS, WATER LEVELS AND OTHER SUBTERRANEAN LAYERS THE ELECTRICAL CONDUCTIVITY OF WHICH IS DIFFERENT FROM THAT OF MATERIALS SURROUNDING THEM)

Eduard Raven of Gelsenkirchen

331,427 Patent issued Jan. 7, 1921.

The patent discloses a method in which the electrical waves are emitted from two radio stations through the ground, and the paths of the waves, or their reflections, are determined by means of a receiving station situated at about an equal distance from the two sending stations and adjusted to the same sound.

Claims allowed - 1.

(258) VERFAHREN ZUR FESTSTELLUNG VON ERZ-WASSER-ODER ANDEREN BODENSCHICHTEN MIT EINER VON DER UMGEBUNG ABWEICHENDEN ELEKTRISCHEN LEITFÄHIGKEIT

(METHOD FOR DETERMINING ORE LAYERS, WATER LEVELS AND OTHER SUBTERRANEAN LAYERS THE ELECTRICAL CONDUCTIVITY OF WHICH IS DIFFERENT FROM THAT OF MATERIALS SURROUNDING THEM)

Eduard Raven of Gelsenkirchen

334,626 Patent issued March 15, 1921.

This patent discloses a method by which the disturbances of an electric current line field produced in the ground by layers of electrical conductivity different from that of the surrounding material, as well as the position of the disturbing mass, are determined by listening, on the surface of the earth or other accessible place, in a telephone inserted into a movable searching loop or coil. A device provided for amplifying the current--for example, a cathode tube--is inserted into the searching loop.

Claims allowed - 3.

(259) VERFAHREN ZUM AUFSUCHEN VON EISENERZLAGERN

(METHOD FOR DISCOVERING IRON-ORE DEPOSITS)

Eduard Raven of Gelsenkirchen

344,489 Patent issued Nov. 22, 1921.

The method for discovering iron-ore deposits described in this patent is based on the fact that the earthmagnetic lines of force existing at the places of such deposits influence wire loops or coils (with or without an iron core) moved across the terrain; the weak induction currents thus produced are amplified by a suitable amplifier (for example a cathode-tube amplifier) so that they can be perceived by a telephone or a similar device. The coil is suspended inside of a frame which can be rotated around an axis perpendicular to the axis of the coil.

Claims allowed - 3.

(260) UNPOLARISIERBARE ELEKTRODE ZU ERDFORSCHUNGSZWECKEN

(NONPOLARIZABLE ELECTRODE FOR THE PURPOSES OF GROUND INVESTIGATION)

"Erda" Aktien-Gesellschaft of Göttingen

367,634 Patent issued Jan. 24, 1923.

This patent describes a nonpolarizable electrode used for ground investigation in which the metal electrode which serves as a means for passing of the current is surrounded by a series of solutions of similar or different metallic salts separated one from another by porous walls and having a concentration which approaches by steps the electrolytic concentration of the ground.

Claims allowed - 1.

(261) VERFAHREN ZUR ELEKTRISCHEN ERFORSCHUNG DES ERDINNERN

(METHOD OF ELECTRICAL INVESTIGATION OF THE INTERIOR OF THE EARTH)

Dr. Heinrich Löwy of Vienna

368,079 Patent issued Jan. 31, 1923.

The patent discloses a method of electrical investigation of the interior of the earth by which a large number of measurements can be made in a very short time by flying above the ground in an airplane or airship; the method is characterized by equipping the airship with an earth antenna drawn along the ground during the flight.

Claims allowed - 2.

(262) VORRICHTUNG ZUR AUFSUCHUNG UND LAGEBESTIMMUNG VON MASSEN ABWEICHENDER ELEKTRISCHER LEITFÄHIGKEIT IM ERDBODEN

(ARRANGEMENT FOR DISCOVERING AND DETERMINING THE POSITION OF SUBTERRANEAN MASSES HAVING ANOMALOUS ELECTRICAL CONDUCTIVITY)

"Erda" Gesellschaft für wissenschaftliche Erderforschung
und Dr. Richard Ambronn of Göttingen

372,536 Patent issued March 29, 1923.

The arrangement for discovering and determining the position of subterranean masses having anomalous electrical conductivity is characterized by establishing the distribution of the electrical potential or the equipotential lines along the surface of the earth or along the boreholes by means of flat electrodes disposed on the surface of the earth or lowered into the ground in places suitably situated with respect to the object sought for.

Claims allowed - 1.

(263) VERFAHREN ZUR FESTSTELLUNG DER LAGE ELEKTRISCH LEITENDER FLÄCHEN IN DER ERDE MIT HILFE DER REFLEXION ELEKTRISCHER WELLEN

(METHOD FOR DETERMINING THE POSITION OF SUBTERRANEAN ELECTRICALLY CONDUCTIVE AREAS WITH THE AID OF THE REFLECTION OF ELECTRICAL WAVES)

Gesellschaft für drahtlose Telegraphie m.b.H. in Berlin

377,187 Patent issued June 13, 1923.

The patent discloses a method in which the sender consists of a horizontal antenna and the receiver of a frame antenna rotatable about a horizontal axis; by the latter antenna the angle of incidence of the reflected waves emitted from the conducting area, and therefore also the position of this area, are determined.

Claims allowed - 1.

(264) VERFAHREN ZUR FESSTELLUNG DER TIEFE EINER DAS STROMLINIENFELD STÖRENDEN EINLAGERUNG IN DER ERDE

(METHOD FOR DETERMINING THE DEPTH OF A SUBTERRANEAN DEPOSIT BY WHICH THE CURRENT-LINE FIELD IS DISTURBED)

Gesellschaft für praktische Geophysik, m.b.H. in Freiberg i. B.

377,837 Patent issued June 28, 1923.

The method disclosed in this patent is characterized by an arrangement in which two induction loops or induction coils assigned for the determination of the direction of the lines of force of the field are fixed at different heights from the surface of the ground and are rotated until maximum or minimum induction effect is obtained. For the determination of the intensity difference of the field at the two positions the induction effects obtained in the two coils are compared one with another or determined, according to the zero method, with the aid of a branched part of the primary current working in the opposite direction.

Claims allowed - 1.

(265) VORRICHTUNG ZUR BESTIMMUNG VON RICHTUNG, INTENSITÄT UND POLARISATIONSZUSTAND ELEKTRISCHER WELLEN, INSBESONDERE ZU ERDERFORSCHERUNGSZWECKEN IN BERGWERKEN

(METHOD FOR DETERMINING THE DIRECTION, INTENSITY AND POLARIZATION STATE OF ELECTRICAL WAVES, ESPECIALLY FOR PURPOSES OF THE INVESTIGATION OF THE GROUND IN MINES)

"Erda" Aktien-Gesellschaft of Göttingen

378,224 Patent issued Nov. 16, 1923.

The method described in this patent is characterized by an arrangement in which the receiving system consists of a frame antenna rotatable about a horizontal and a vertical axis connected with a rotatable or oscillating condenser.

Claims allowed - 4.

(266) VERFAHREN ZUR AUFSUCHUNG VON KÖRPERN IM UNTERGRUNDE

(METHOD FOR DISCOVERING BODIES LYING UNDER THE GROUND)

"Erda" Aktein-Gesellschaft in Göttingen

392,158 Patent issued March 17, 1924.

This patent discloses a method for discovering bodies lying under the ground, the electrical conductivity of which is different from that of the material surrounding them, by means of electrical current-line method, equipotential-line method, or similar methods in case there is in the ground another known disturbing deposit the conductivity of which also differs from the material surrounding it. This method is characterized by screening off the known deposit from the field to be investigated by means of one or a series of auxiliary electrodes connected to one or both the field electrodes.

Claims allowed - 2.

(267) VERFAHREN ZUR ERGÄNZUNG VON MESSUNGEN MITTELS EQUIPOTENTIALLINIENMETHODE FÜR ERDERFORSCHUNGSZWECKE

(METHOD FOR SUPPLEMENTING THE MEASUREMENTS MADE BY MEANS OF EQUIPOTENTIAL LINE METHOD FOR EARTH INVESTIGATION)

"Erda" Aktien-Gesellschaft in Göttingen

392,189 Patent issued March 17, 1924.

The method disclosed in this patent is characterized by an arrangement in which at places of measured potential lines, distributed suitably, the voltage drop perpendicular to the potential line is measured quantitatively or relatively and the local current density of the ground is determined in connection with the resistance measurements in the closing circuit of the probe current.

Claims allowed - 1.

(268) VORRICHTUNG ZUM AUFSUCHEN VON MAGNETISCHEN ODER ELEKTRISCH LEITFÄHIGEN STOFFEN

(METHOD FOR DISCOVERING MAGNETIC OR ELECTRICALLY CONDUCTIVE MATERIALS)

"Erda" Aktien-Gesselschaft of Göttingen

392,987 Patent issued March 28, 1924.

The patent describes an arrangement for discovering magnetic or electrically conductive materials based on their influence upon the development of lines of force in a magnetic direct current field or alternating current field or upon the induction coefficients of coils. The method is characterized by an arrangement in which two electromagnetic systems of different geometrical shape are in differential connection to each other; these systems are differently influenced by the distribution of the magnetically or electrically conductive masses in space.

Claims allowed - 3.

(269) ANORDNUNG ZUR BESTIMMUNG DER RICHTUNG EINES IN DER ERDE FLIESSENDEN WECHSEL-ODER GLEICHSTROMES

(ARRANGEMENT FOR DETERMINING THE DIRECTION OF AN ALTERNATING OR DIRECT CURRENT FLOWING INSIDE THE EARTH)

Gessellschaft für praktische Geophysik m.b.H. in Freiburg i. B.

393,644 Patent issued April 11, 1924.

This patent discloses an arrangement by which three search electrodes are connected to three or two coils or current conductors so that the angles of the coil planes correspond to the angles formed by the lines connecting the three search electrodes; the effect of one coil corresponds to the length of the respective path on the earth, so that the direction of maximum or minimum induction in a rotatable coil or the deviation of a magnet needle shows the direction of the whole alternating or direct current inside the earth.

Claims allowed - 1.

(270) EINRICHTUNG ZUM NACHWEIS VON LEITENDEN KÖRPERN

(ARRANGEMENT FOR DETECTING CONDUCTIVE BODIES)

Rudolf Hans Richter of Leipzig-Gohlis

397,698 Patent issued June 28, 1924.

The investion discloses an arrangement for detecting conductive bodies in which not the main oscillation is observed but an oscillation harmonic to it. This is obtained by superposing an auxiliary oscillation which is harmonic to the fundamental one.

Claims allowed - 3.

(271) EINRICHTUNG ZUM NACHWEIS VON LEITENDEN KÖRPERN

(ARRANGEMENT FOR DETECTING CONDUCTIVE BODIES)

Rudolf Hans Richter of Leipzig-Gohlis

398,267 Patent issued July 5, 1924.

The investion described in this patent relates to a method in which, by means of arrangements between the turns of the coil used, or between the coils and the earth, such a capacity contact is obtained that changes in the effective capacity caused by approaching of human and animal bodies, as well as changes caused by other sources of disturbance, may become very small and practically harmless.

Claims allowed - 3.

(272) VERFAHREN ZUR AUSMESSUNG MAGNETISCHER WECHSELFELDER

(METHOD FOR MEASURING MAGNETIC ALTERNATING FIELDS)

"Erda" Aktien Gesselschaft in Göttingen

400,148 Patent issued Aug. 7, 1924.

In this patent a method for measuring magnetic alternating fields, especially for the purpose of ground investigation, is described, in which the revolving axis of a coil turned around slowly is adjusted so that the variations of the alternating current induced in the coil by the earth currents, which vary in the field of the lines of force during rotation, disappear.

Claims allowed - 4.

(273) VERFAHREN ZUR ERFORSCHUNG DES ERDINNERN MITTELS EINES VON EINEM LUFTSCHIFF ODER FLUGZEUG ÜBER DEN BODEN GEFÜHRTEN OFFENEN ODER GESCHLOSSENEN SCHWINGUNGSKREISES

(METHOD FOR INVESTIGATING THE SUBSOIT BY MEANS OF AN OPEN OR CLOSED OSCILLATORY CIRCUIT CARRIED ALONG ABOVE THE GROUND BY AN AIRSHIP OR AIRPLANE)

Dr. Heinrich Löwy of Vienna

401,448 Patent issued Sept. 4, 1924.

This patent relates to a method characterized by an arrangement such that the oscillatory circuit is not drawn along on the ground during the flight but is secured at a constant distance below the airship or airplane and is thus moved above the ground.

Claims allowed - 2.

(274) SCHALTUNGSANORDNUNG FÜR ERDERFORSCHUNG

(ELECTRICAL CIRCUIT ARRANGEMENTS FOR EARTH INVESTIGATION)

"Erda" Aktien Gesellschaft und Dr. Richard Ambronn of Göttingen

403,213 Patent issued Oct. 12, 1924.

This method of connection for earth investigation by means of electrical currents is characterized by producing, on an area situated outside of the region to be investigated, a tension field of a form similar to that of the field. The spatial or superficial distribution of the tension with regard to this field is then measured directly or with the aid of a potentiometer inserted in this tension field.

Claims allowed - 2.

(275) VERFAHREN ZUR ELEKTRODYNAMISCHEN ERFORSCHUNG DES ERDINNERN MITTELS DIE ERDSCHICHTEN DURCHSTRAHLENDER, VON TELEPHONEMPFÄNGERN AUFZUFANGENDER ELEKTRISCHER INDUKTIONSSTRÖME

(METHOD FOR ELECTRO-DYNAMIC INVESTIGATION OF THE SUBSOIL BY MEANS OF ELECTRICAL INDUCTION CURRENTS PENETRATING THROUGH THE EARTH-LAYERS AND CAUGHT BY TELEPHONE RECEIVERS)

Nobert Gella of Vienna

403,494 Patent issued Oct. 2, 1924.

The method for investigating the subsoil disclosed in this patent consists in leaving the receiving station at the same place and moving the transmitter along the borders of the region under investigation, determining the strength of the sound by means of a telephone.

Claims allowed - 2.

(276) EINRICHTUNG ZUM NACHWEIS UND ZUR MESSUNG DES ABSTANDES ELEKTRISCH LEITFÄHIGER MASSEN

(METHOD FOR DETERMINING AND MEASURING THE DISTANCE FROM ELECTRICALLY CONDUCTIVE MASSES)

Dr. Heinrich Löwy of Vienna

403,939 Patent issued Oct. 7, 1924.

The method for determining and measuring the distance from electrically conductive masses described in this patent is characterized by an arrangement in which a transmitter and a receiver are switched off alternatively and with variable frequency by means of a modulation transmitter (Modulationssender) The modulation is carried out by alternating current, electrical oscillations, direct current with reduced pulsations, or electrical vibrations.

Claims allowed - 3.

(277) VERFAHREN ZUR RICHTUNGSBESTIMMUNG VON ELEKTROMAGNETISCHEN STRAHLUNGEN, VORZUGSWEISE IN BERGWERKEN

(METHOD FOR DETERMINING THE DIRECTION OF THE ELECTROMAGNETIC RADIATION ESPECIALLY IN MINES)

"Erda" Aktien-Gesellschaft of Göttingen

404,098 Patent issued Oct. 11, 1924.

The method for determining the direction of the electromagnetic radiation described in this patent consists of determining, by means of a frame antenna, the direction of magnetic lines of force produced by two transmitting antennae, located at the same place or at two places close one to another, the magnetic axes of which are perpendicular one to another and also perpendicular to the direction toward the receiving station.

Claims allowed - 3.

(278) EINRICHTUNG ZUM NACHWEIS VON LEITENDEN ODER MAGNETISIERBAREN KÖRPERN

(ARRANGEMENT FOR DETERMINING CONDUCTIVE OR MAGNETIZABLE BODIES)

Rudolf Hermann Heinrich Geffcken and Rudolf Hans Richter
of Leipzig-Gohlis

404,099 Patent issued Oct. 13, 1924.

This patent discloses an arrangement for determining conductive or magnetizable bodies by means of frequency changes which are made perceivable in the form of changes of sound frequency oscillations. The arrangement is characterized by determining the frequency changes of the sound frequency oscillations by working with other oscillations or other systems of oscillations.

Claims allowed - 6.

(279) EINRICHTUNG ZUR AUFSUCHUNG UND BEGRENZUNG ELEKTRISCH LEITENDER RÄUME IN RÄUMEN VON ABWEICHENDER LEITFÄHIGKEIT ODER DIELEKTRIZITÄTSKONSTANTE

(METHOD FOR DETECTING AND DELIMITING ELECTRICALLY CONDUCTIVE SPACES SURROUNDED BY SPACES WITH ANOMALOUS CONDUCTIVITY OR DIELECTRIC CONSTANT)

"Erda" Aktien-Gesellschaft in Göttingen

405,473 Patent issued Nov. 1, 1924.

This patent discloses a method by which electrically conductive spaces surrounded by spaces with anomalous conductivity or dielectric constant are detected and their borders are established by determining the direction and intensity of electrical waves emitted from a fixed place and deflected from the surface limiting the conductive space and running along suitably situated lines around the surface sought for.

Claims allowed - 1.

(280) VERFAHREN ZUR UNTERSUCHUNG DER BODENBESCHAFFENHEIT AUF GRUND DER VERTEILUNG DER ELEKTRISCHEN LEITFÄHIGKEIT IM BODEN

(METHOD FOR INVESTIGATION OF THE NATURE OF THE GROUND BASED ON THE DISTRIBUTION OF ELECTRICAL CONDUCTIVITY IN THE SOIL)

"Erda" Aktien-Gesselschaft in Göttingen

406,299 Patent issued Nov. 17, 1924.

The method described in this patent consists in measuring and comparing the variations of the natural magnetic earth field produced by natural earth currents as well as artificial current impulses. The measurements are made at several points, suitably distributed, by means of a magnetometer or adjusted resonance systems.

Claims allowed - 3.

(281) VERFAHREN ZUM FESTSTELLEN VON WASSERANNÄHERUNG BEI VERROHRTEN BOHRUNGEN

(METHOD FOR DETERMINING THE APPROACH OF WATER IN TUBED BOREHOLES)

Gesellschaft für praktische Geophysik, m.b.H. in Freiburg.

407,495 Patent issued Dec. 17, 1924.

The method described in this patent is characterized by an arrangement in which the metallic tubing of a borehole itself forms the capacity of a resonance current; the tubing capacity and its change is measured directly in a known way, either by the measurement of the charge current or the discharge current, or by using a combination with another resonance current according to the well-known method of electrical vibrations; the capacity change of the tubing caused by the approach of water is determined from the change in the rate of vibration of the sound or from the strength of the charge and the discharge current.

Claims allowed - 2.

(282) VORRICHTUNG ZUM ENTSENDEN ELEKTRISCHER STRÖME IN DEN BODEN ZWECKS AUFSUCHUNG UND LAGENBESTIMMUNG VON BODENTEILEN MIT ABWEICHENDER ELEKTRISCHER LEITFÄHIGKEIT

(ARRANGEMENT FOR DISPATCHING ELECTRICAL CURRENTS INTO THE GROUND FOR THE PURPOSE OF DISCOVERING AND DETERMINING THE POSITION OF DEPOSITS WITH ANOMALOUS ELECTRICAL CONDUCTIVITY)

W. Piepmeyer and Co., Kommandit-Gesellschaft in Cassel-Wilhelmshöhe

408,819 Patent issued Jan. 27, 1925.

This patent discloses an arrangement in which insulated electrodes are buried in the ground at a considerable depth. For this a pipe, the inside surface of which is covered with an insulating layer, is driven into the ground. An insulated cable passes through the pipe and is connected with the metallic sharp end of the pipe; the connection with the ground is established through this metallic end which is insulated from the pipe.

Claims allowed - 2.

(283) VERFAHREN ZUM AUFSUCHEN UND ZUR LAGEBESTIMMUNG VON BODENTEILEN MIT ABWEICHENDER ELEKTRISCHER LEITFÄHIGKEIT MIT HILFE IN DEN BODEN GESANDTER ELEKTRISCHER STRÖME

(METHOD FOR DISCOVERING AND DETERMINING THE POSITION OF PARTS OF THE GROUND HAVING ANOMALOUS ELECTRICAL CONDUCTIVITY BY MEANS OF ELECTRICAL CURRENTS DISPATCHED INTO THE GROUND)

W. Pipemeyer and Co., Kommandit-gesellschaft in Cassel-Wilhelmshöhe

415,188 Patent issued June 22, 1925.

The plan of this patent is characterized by measuring the direction and strength of the magnetic field produced at places above the surface of the ground or those accessible in the subsoil, in such a way that a wire-wound ring, capable of being turned in any position by means of three axes, is connected to a measurement device; for the determination of the direction of the magnetic field first one axis, which at the same time is the diameter of the ring, is brought into such a position that by rotating the ring around this axis the device for measuring the current indicates the absence of a current at any position of the ring; after this the maximum value of the induction is determined for the position of the ring-plane perpendicular to this position of the axis.

Claims allowed - 2.

(284) VERFAHREN ZUM AUFFINDEN LEITENDER MASSEN IM ERDBODEN DURCH ELEKTRISCHEN WECHSELSTROM, DER AN ZWEI STELLEN DEM BODEN ZUGEFÜHRT WIRD

(METHOD FOR DISCLOSING CONDUCTIVE SUBTERRANEAN MASSES BY MEANS OF ELECTRIC ALTERNATING CURRENT PASSED INTO THE GROUND AT TWO POINTS)

Société Industrielle des Procédés W.-A. Loth in Paris

417,663 Patent issued Aug. 14, 1925.

Determination is made of the earth-currents produced by means of a line, the ends of which are connected with the ground, by means of their induction-effect upon a coil. The particular properties of the ground are disclosed by the course of the magnetic lines of force. Cardan suspension of the coil characterizes this method. A system of three frames adjusted perpendicularly one to another is used.

Claims allowed - 4.

(285) EINRICHTUNG ZUM NACHWEIS VON LEITENDER ODER MAGNETISCHEN KÖRPERN

(ARRANGEMENT FOR DETERMINING CONDUCTIVE OR MAGNETIC BODIES)

Dr. Rudolf Hermann Heinrich Geffcken and Dr. Rudolf
Hans Richter of Leipzig-Gohlis

417,834 Patent issued Sept. 19, 1925.

The arrangement for determining conductive or magnetic bodies based on their influence upon the vibration conditions of a tubular generator is characterized by determining the changes of the anode direct current or grid direct current of the generator tubes caused by this influence.

Claims allowed - 5.

(286) VERFAHREN ZUR ELEKTRISCHEN UNTERSUCHUNG DES UNDERGRUNDES

(METHOD FOR ELECTRICAL INVESTIGATION OF THE SUBSOIL)

"Erda" Aktien-Gesselschaft of Göttingen

422,348 Patent issued Nov. 28, 1925.

High-frequency alternating currents are passed into the ground at two or more suitable selected points and the intensity, direction, and the polarization conditions of these alternating currents, at points suitably distributed, are determined by means of inclosing in the electromagnetic alternating field produced by the current-receiving systems for high-frequency oscillations.

Claims allowed - 2.

(287) EINRICHTUNG ZUM ELEKTROAVIATISCHEN NACHWEIS UND ZUR MESSUNG DES ABSTANDES ELEKTRISCH LEITFÄHIGER MASSEN

(ARRANGEMENT FOR ELECTRO-AVIATIC INVESTIGATION AND FOR MEASURING DISTANCES FROM ELECTRICALLY CONDUCTIVE MASSES)

Dr. Heinrich Löwy of Berlin

425,050 Patent issued Feb. 11, 1926.

The arrangement described in this patent consists of connecting two or more airships by metallic wires serving as an antenna.

Claims allowed - 4.

(288) EINRICHTUNG ZUM NACHWEIS VON LEITENDEN KÖRPERN

(ARRANGEMENT FOR DETERMINING CONDUCTIVE BODIES)

Dr. Rudolf Hermann Heinrich Geffcken and
Dr. Rudolf Hans Richter
of Leipzig-Gohlis.

426,795 Patent issued March 17, 1926.

According to the arrangement described in this patent the determination of conductive bodies is obtained by means of several loosely coupled systems, capable of oscillating and adjusted to the exciting frequency in such a manner that the oscillation produced in each system remains, with regard to the inducing oscillation, in the region of sharp phase change; an arrangement for determining the shifts of the phase conditions of the systems is added.

Claims allowed - 3.

(289) EINRICHTUNG ZUM NACHWEIS ELEKTRISCH LEITFÄHIGER SCHICHTEN DES ERDBODENS

(ARRANGEMENT FOR DETERMINING ELECTRICALLY CONDUCTIVE LAYERS OF THE GROUND

Dr. Heinrich Löwy of Vienna

432,221 Patent issued July 27, 1926.

This patent describes the determination of electrically conductive layers of the ground by means of an electrical oscillator carried by an airship; the invention is characterized by the arrangement in which the metallic frame of the airship serves as an antenna.

Class allowed - 1.

(290) EINRICHTUNG ZUM NACHWEIS VON LEITENDEN ODER MAGNETISIERBAREN KÖRPERN DURCH FREQUENZÄNDERUNG VON SCHWINGUNGEN

(ARRANGEMENT FOR DETERMINING CONDUCTIVE OR MAGNETIZABLE BODIES BY CHANGE OF FREQUENCY OF OSCILLATIONS)

Rudolf Hermann Heinrich Geffcken and Rudolf Hans Richter
of Leipzig-Gohlis.

435,255 Patent issued Oct. 11, 1926.

At least two oscillation systems are coupled one with another and adjusted in such a manner that in case of changes of natural frequency of one system, stronger changes of the coupled frequencies or of the frequency of one of the really existing oscillations appear. It is essential that more than one of the coupled oscillation systems be provided with a generator.

Claims allowed - 5.

(291) ANORDNUNG DER ELEKTRODEN FÜR EIN ELEKTRISCHES STROMVERFAHREN ZU BODENUNTERSUCHUNGEN

(ARRANGEMENT OF ELECTRODES FOR AN ELECTRICAL CURRENT METHOD FOR INVESTIGATING THE SOIL)

Käte Heckmann of Freiburg i. B.

485,364 Patent issued Oct. 11, 1926.

The invention described in this patent recommends the arrangement of several primary electrodes along one line at equal distances one from another; the signs of the electric tension given them must alternate; the secondary electrodes are distributed on both sides of each primary electrode so that their tension difference is equal to zero.

Claims allowed - 1.

(292) EINRICHTUNG ZUR MESSUNG UND ZUM NACHWEIS KLEINER ÄNDERUNGEN DER FREQUENZ VON ELEKTRISCHEN SCHWINGUNGSKREISEN, INSBESONDERE ZUM NACHWEIS DER DURCH UNTERIRDISCHE ELEKTRISCHE LEITER VERURSACHTEN ÄNDERUNGEN DER FREQUENZ VON LUFTFAHRZEUG-ANTENNEN

(ARRANGEMENT FOR MEASURING AND DETERMINING SMALL FREQUENCY CHANGES IN ELECTRIC RESONANCE CURRENTS, ESPECIALLY FOR DETERMINING THE FREQUENCY CHANGES IN THE AIRSHIP-ANTENNAE CAUSED BY SUBTERRANEAN ELECTRIC CONDUCTORS)

Dr. Heinrich Löwy of Vienna

436,827 Patent issued Nos. 13, 1926.

The fundamental part of the invention described in this patent discloses a method by which the electrical oscillation system under investigation is arranged in such a manner (for example, in case of tubular senders, by means of suitable choice of the constants of the oscillation current) that the oscillation process is displaced to the close proximity of a place of rupture or to the region of a sharp drop of the oscillation amplitude in which great changes of the oscillation amplitude correspond to small changes of frequency.

Claims allowed - 1.

(293) VERFAHREN ZUR BESTIMMUNG DER TIEFE VON EINLAGERUNGEN IM ERDBODEN

(METHOD FOR DETERMINING THE DEPTH OF DEPOSITS IN THE GROUND)

"Seismos" Gesellschaft m.b.H. of Hanover

440,106 Patent issued Jan. 29, 1927.

This patent discloses a method for determining the depth of deposits from the deformation of the field of lines of force. A straight cable is put over the ground and covered with earth on both ends. The current field is studied by means of secondary electrodes. The distance between the electrodes can be increased gradually; the electrodes may be disposed symmetrically or asymmetrically with respect to the source of the current which is placed in the center of them. By measuring the electric field for every position of the electrodes, a sudden and strong change of this field will indicate the presence of the deposit and will make the determination of its depth possible.

Claims allowed - 1.

(294) VERFAHREN ZUR FESTSTELLUNG UND LOKALISIERUNG VON KÖRPERN IM UNTERGRUNDE

(METHOD FOR DETERMINING AND LOCATING SUBTERRANEAN BODIES)

"Seismos" Gesellschaft m.b.H. of Hannover

442,832 Patent issued April 8, 1927.

This patent describes a method for determining and locating subterranean bodies, the electrical conductivity and the dielectric constant of which are anomalous with respect to masses surrounding them. The investigation is carried out by measuring the phase difference at various points on the ground by means of electrodes. Claims allowed - 2.

(295) VERFAHREN ZUR AUFSUCHUNG VON EINLAGERUNGEN IM ERDBODEN

(METHOD FOR LOCATING SUBTERRANEAN DEPOSITS)

Dr. Johann Königsberger of Freiburg i. B.

444,506 Patent issued May 21, 1927.

Deposits (iron ore, water, coal) which are surrounded entirely or partly by substances of a lower electrical conductivity or have a lower dielectric constant are located by measuring at various receiving stations placed approximately at equal distances from a sending station, electrical waves emitted from this sending station. The invention is based on the theory that better electrical conductivity and greater dielectric constant of bodies cause a certain concentration of waves along the border surfaces of these bodies.

Claims allowed - 1.

(296) VORRICHTUNG ZUR AUSMESSUNG DER MAGNETISCHEN KRAFTLINIEN EINES ELEKTROMAGNETISCHEN WECHSELFELDES, VORZUGSWEISE ZU ERDERFORSCHUNGSZWECKEN

(APPARATUS FOR MEASURING MAGNETIC LINES OF FORCE OF AN ELECTROMAGNETIC ALTERNATING FIELD, EXPECIALLY FOR THE PURPOSE OF GROUND INVESTIGATION)

Dr. Richard Ambronn of Göttingen

448,190 Patent issued Aug. 6, 1927.

This patent discloses an apparatus for measuring magnetic lines of force of an electromagnetic alternating field which is characterized by the following arrangement: The position of the plane of turn of the induction coil in space is indicated by a pendulum body provided with a vertical galvanoscope; this pendulum is suspended so that it can be moved freely around two axes perpendicular one to another and situated in the same plane; one of these axes is perpendicular to the plane of turn of the induction coil.

Claims allowed.- 1.

(297) VERFAHREN UND VORRICHTUNG ZUR BESTIMMUNG VON ÄQUIPOTENTIALFLÄCHEN UND-LINIEN

(METHOD AND APPARATUS FOR DETERMINING EQUIPOTENTIAL SURFACES AND EQUIPOTENTIAL LINES)

Hermann Heuer of Gandersheim, Harz

453,564 Patent issued Dec. 14, 1927.

A method and apparatus is presented for measuring equipotential surfaces and equipotential lines by which their determination becomes more accurate owing to the possibility of compensating and measuring the undesirable induction currents.

Claims allowed - 5.

(298) VERFAHREN UND VORRICHTUNG ZUM MESSEN VON ÄQUIPOTENTIALFLÄCHEN UND-LINIEN

(METHOD AND APPARATUS FOR MEASURING EQUIPOTENTIAL SURFACES AND EQUIPOTENTIAL LINES)

Hermann Heuer of Gandersheim, Harz

458,021 Patent issued March 31, 1928.

This patent is an addition to patent 453,564 concerning the method and apparatus for measuring equipotential surfaces and equipotential lines. The present patent discloses an invention for discovering spatial distribution of current by means of two measurement currents, each provided with two probes, branched from the spatial conductor--for example, the ground.

Claims allowed - 7.

(299) VERFAHREN ZUR BESTIMMUNG DES ABSTANDES EINER REFLEKTIERENDEN FLÄCHE MITTELS ELEKTROMAGNETISCHER WELLEN, INSBESONDERE ZUR FESTSTELLUNG DER LAGE ELEKTRISCH LEITENDER FLÄCHEN IN DER ERDE

(METHOD FOR DETERMINING THE DISTANCE FROM A REFLECTION SURFACE BY MEANS OF ELECTROMAGNETIC WAVES, ESPECIALLY FOR DETERMINING THE POSITION OF ELECTRICALLY CONDUCTIVE SURFACES IN THE GROUND)

"Seismos" G. m.b.H. of Hannover

458,097 Patent issued April 4, 1928.

The method discussed in this patent is characterized by an arrangement in which the deviation of waves of different lengths emitted from a fixed sending station and received by a fixed frame antenna, serving as the receiving station, is investigated in connection with the phase difference.

Claims allowed - 3.

(300) EINRICHTUNG ZUR BESTIMMUNG DER RÄUMLICHEN LAGE DER LUFTELEKTRISCHEN ÄQUIPOTENTIALFLÄCHEN UND POTENTIALDIFFERENZEN, INSBESONDERE FÜR DIE ZWECKE DER ELEKTRISCHEN BODENERFORSCHUNG

(ARRANGEMENT FOR DETERMINING THE SPATIAL POSITION OF AERIAL ELECTRICAL EQUIPOTENTIAL SURFACES AND POTENTIAL DIFFERENCES, ESPECIALLY FOR THE PURPOSE OF ELECTRICAL INVESTIGATION OF THE GROUND)

Gebr. Ruhstrat of Göttingen

461,908 Patent issued July 2, 1928.

Two collectors, rotatable vertically and horizontally about corresponding disks and connected by a line with an electrometer are placed in such a manner that the inclination of the line connecting the two collectors toward a horizontal plane, its horizontal direction, and the potential difference between the two collectors can be read directly from the apparatus.

Claims allowed - 3.

(301) VERFAHREN ZUR BODENERFORSCHUNG AUF ELEKTROMAGNETISCHEM WEGE, BEI WELCHEM DEM BODEN WECHSELSTROM GALVANISCH ZUGEFÜHRT UND DIE STÄRKE DES VON IHM ERZEUGTEN MAGNETISCHEN FELDS MIT HILFE EINER INDUKTIONSSPULE ERMITTELT WIRD

(METHOD FOR ELECTROMAGNETIC INVESTIGATION OF THE GROUND IN WHICH THE ALTERNATING CURRENT IS PASSED INTO THE GROUND GALVANICALLY AND THE STRENGTH OF THE MAGNETIC FIELD PRODUCED BY IT IS DETERMINED BY MEANS OF AN INDUCTION COIL)

Svenska Radioaktiebolaget of Stockholm

463,245 Patent issued July 26, 1928.

A method is described in which the electromagnetic investigation of the ground is carried out with the aid of an induction coil. The potential difference produced in the coil by induction is measured with a tubular voltmeter.

Claims allowed - 1.

(302) VERFAHREN ZUM AUFSUCHEN WERTVOLLER BODENEINLAGERUNGEN AUF ELEKTROMAGNETISCHEM WEGE DURCH ZUFÜHRUNG ELEKTRISCHER WECHSELSTRÖME

(METHOD FOR DISCOVERING VALUABLE DEPOSITS ELECTROMAGNETICALLY BY INTRODUCING INTO THE GROUND ELECTRICAL ALTERNATING CURRENTS)

Dr. Richard Ambronn of Göttingen

464,767 Patent issued Dec. 4, 1928.

This patent discloses a method for locating valuable deposits electromagnetically by introducing into the ground alternating current and investigating the corresponding components produced of the magnetic field vector with regard to their mutual relation, as well as their relation to a normal phase.

Claim allowed - 7.

(303) VERFAHREN ZUR PRAKTISCH VOLLSTÄNDIGEN ELIMINIERUNG DES EINFLUSSES DER INDUKTION DER ZULEITUNGEN ZU DEN ELEKTRODEN AUF DAS AUFNAHMEGERÄT EINES ZUM ZWECKE DER BODENERFORSCHUNG IN DEN UNTERGRUND GESANDTEN WECHSELSTROMS

(METHOD FOR PRACTICALLY COMPLETE ELIMINATION OF THE INFLUENCE OF THE INDUCTION OF THE WIRE CONNECTED TO ELECTRODES UPON THE RECEIVING APPARATUS OF AN ALTERNATING CURRENT INTRODUCED INTO THE SUBSOIL FOR THE PURPOSE OF THE INVESTIGATION OF THE GROUND)

Exploration Bodenuntersuchungs- and Verwertungs G. m.b.H.
of Berlin.

469,018 Patent issued Nov. 29, 1928.

This patent discloses a method characterized by the use of double wound wires. The first electrode is connected with the generator directly; the wire leading to the second electrode is branched, at a point close to the first electrode, into two lines of equal resistance; these two lines are conducted around the region to be investigated in a symmetrical form (for example in the form of a rectangle). By this arrangement the influence of the induction produced by single parts of the line upon the receiving apparatus is practically eliminated.

Claims allowed - 2.

(304) VERFAHREN ZUR BODENFORSCHUNG AUF ELEKTROMAGNETISCHEN WEGE DURCH ERREGUNG ELEKTRISCHER WECHSELSTRÖME IM UNTERGRUNDE UND AUFNAHME DER ELLIPTISCHEN SCHWINGUNGEN DES BODENSTROMES BZW. DES MAGNETISCHEN VEKTORS

(METHOD FOR ELECTROMAGNETIC INVESTIGATION OF THE GROUND BY ALTERNATING CURRENT PRODUCED UNDER THE GROUND AND DETERMINATION OF THE ELLIPTICAL OSCILLATION OF THE EARTH CURRENT OR OF THE MAGNETIC VECTOR)

Dr. Richard Ambronn of Göttingen

469,445 Patent issued Dec. 17, 1928.

The method described in this patent is characterized by the following proceeding: in all points of observation of the whole region under investigation or of single parts of it those diameters of the ellipses of oscillation are determined for which the field vectors taken in their directions are of the same phase.

Claims allowed - 6.

(305) VERFAHREN ZUR AUSMESSUNG DES FELDES EINES INSBESONDERE ZUM ZWECKE DER BODENERFORSCHUNG MIT ELEKTRODEN IN DEN UNTERGRUND GESANDTEN WECHSELSTROMES

(METHOD FOR MEASURING THE FIELD OF AN ALTERNATING CURRENT SENT UNDER THE GROUND BY MEANS OF ELECTRODES, ESPECIALLY FOR THE PURPOSE OF GROUND INVESTIGATION)

(Addition to patent 453,564)
Hermann Heuer of Gandersheim, and others

470,231 Patent issued Jan. 10, 1929.

This patent, which is an addition to patent 453,564, discloses a simplification of the apparatus. The resonance device is placed, instead of in a special measurement probe line, directly in the main line, and the changes necessary to compensate disturbances serve directly for the location of the disturbing local deposits.

Claims allowed - 2.

(306) VERFAHREN ZUR ELEKTRISCHEN BODENFORSCHUNG DURCH VOLLSTÄNDIGE AUSMESSUNG DER ELEKTRISCHEN UND MAGNETISCHEN ELEMENTE DES DURCH DEN UNDERGRUND ZUGEFÜHRTEN WECHSELSTROME ERZEUGTEN, ELLIPTISCH POLARISIERTEN ELEKTROMAGNETISCHEN FELDES

(METHOD FOR ELECTRICAL INVESTIGATIONS OF THE GROUND BY COMPLETE MEASUREMENT OF ELECTRIC AND MAGNETIC ELEMENTS OF AN ELLIPTICALLY POLARIZED ELECTROMAGNETIC FIELD PRODUCED BY ALTERNATING CURRENTS CONDUCTED THROUGH THE SUBSOIL)

Dr. Richard Ambronn of Göttingen

471,636 Patent issued Feb. 25, 1929.

The method described in this patent discloses an arrangement by which the disturbing effects of vagabond currents are nullified by grounding that point (neutral point) of the measuring apparatus with regard to which the disturbances compensate each other.

Claims allowed - 5.

(307) EINRICHTUNG ZUR BESTIMMUNG DER LAGE VON LUFTELEKTRISCHEN ÄQUIPOTENTIALFLÄCHEN ZUM ZWECKE DER ELEKTRISCHEN BODENFORSCHUNG

(APPARATUS FOR DETERMINING THE POSITION OF ELECTRICAL EQUIPOTENTIAL SURFACES FOR THE PURPOSE OF ELECTRICAL INVESTIGATION OF THE GROUND)

Ernst Ruhstrat of Göttingen

475,434 Patent issued July 11, 1929.

This patent discloses a method for electrical investigation of the ground characterized by application of a highly sensitive electrometer, one part of which, preferably its case, serves as a collector.

Claims allowed - 1.

(308) VERFAHREN ZUR ERMITTELUNG DER LAGE UND GESTALT VON NUTZBAREN LAGERSTÄTTEN ODER GESTEINSSCHICHTEN MITTELS BEOBACHTUNG VON SCHALLWELLEN

(METHOD FOR DETERMINING THE POSITION AND THE SHAPE OF USEFUL DEPOSITS OR ROCK STRATA BY OBSERVING SOUND WAVES)

Piepmeyer and Co., Kommandit-Gesellschaft of Kassel-Wilhelmshöhe

479,724 Patent issued July 22, 1929.

This patent discloses a method for determining the position and the shape of deposits by means of observing the sound waves propagated inside of the earth. The method is characterized by variation of the intensity of the sound waves in suitable time intervals so that any desired number of time intervals can be observed in various receiving stations. By corresponding shifting of the receiving stations the velocity of propagation to be compared can be determined in the air as well as in the earth strata at various depths; the position and the shape of these deposits can be established accordingly.

Claims allowed - 1.

(309) KAMMSONDE FÜR DIE ZWECKE DER ELEKTRISCHEN BODENERFORSCHUNG

(PROBE COMB FOR THE PURPOSE OF ELECTRICAL INVESTIGATION OF THE GROUND)

Oberschlesische Werkstätten für Präzisionsmechanik
G. m.b.H. of Ratibor, O.-S.

481,087 Patent issued Oct. 24, 1929.

The method described in this patent consists of determining the equipotential lines of a field created by an alternating current by using, instead of one single probe, a probe comb consisting of several metallic rods arranged at small distances on a rod so that any one of them can be connected to the measuring apparatus by means of a slide.

Claims allowed - 3.

(310) VERFAHREN ZUR BESTIMMUNG VON ÄQUIPOTENTIALFLÄCHEN UND-LINIEN, BEI DEM WECHSELSTROM DEM RÄUMLICHEN LEITER ZUGEFÜHRT UND MIT SONDEN ENTNOMMEN WIRD

(METHOD FOR DETERMINING THE EQUIPOTENTIAL SURFACES AND EQUIPOTENTIAL LINES IN WHICH ALTERNATING CURRENT IS LED IN IN THE SPATIAL CONDUCTOR AND IS TAKEN OUT WITH PROBES)

(Addition to patent 453,564)

Hermann Heuer of Gandersheim, and others

485,286 Patent issued Oct. 30, 1929.

This patent discloses a further development of the method for determining equipotential surfaces and equipotential lines as described in the original patent, No. 453,564. Here the high resistances are reduced by a device producing a negative resistance and containing vacuum tubes. The intensity of the heating current of the vacuum tubes indicates the value of the resistance to be compensated, especially concerning the conductivity of geological formations.

Claims allowed - 4.

(311) VERFAHREN ZUR ELEKTRISCHEN BODENERFORSCHUNG

(METHOD FOR ELECTRICAL INVESTIGATION OF THE GROUND)

Prospector Institut für praktische Geophysik und Geologie,
Dr. Hülsenbeck and Co. of Frankfurt on the Main.

489,434 Patent issued Jan. 17, 1930.

The method for electrical investigation of the ground described in this patent concerns a proceeding by which electrical momentary waves are conducted to the ground and the progress in space and time of the distribution of the momentary waves is determined at any point of the area under investigation by means of high-frequency oscillographs.

Claims allowed - 3.

(312) VERFAHREN ZUR BESTIMMUNG DES MAGNETISCHEN VEKTORS DER KÜNSTLICH ERZEUGTEN ERDSTROME NACH GRÖSSE UND RICHTUNG BEI GEOPHYSIKALISCHEN UNTERSUCHUNGEN MITTELS WECHSELSTRÖME, BEI WELCHEM ALLEIN DIE GRÖSSE UND RICHTUNG DER ERDSTROM KOMPONENTE GEMESSEN WIRD

(METHOD FOR DETERMINING THE INTENSITY AND DIRECTION OF THE MAGNETIC VECTOR OF ARTIFICIALLY PRODUCED ALTERNATING EARTH CURRENTS IN GEOPHYSICAL INVESTIGATIONS BY MEASURING ONLY THE VALUE AND DIRECTION OF THE EARTH-CURRENT COMPONENT)

Prospector Institut für praktische Geophysik und Geologie,
Dr. Hülsenbeck and Co. of Frankfurt on the Main

490,910 Patent issued Feb. 3, 1930.

The method for determining the intensity and direction of the magnetic vector of artificially produced alternating earth currents by measuring only the value and direction of the earth-current component, described in this patent, consists in determining the ratio of the intensities of the horizontal component and the vertical component.

Claims allowed - 1.

(313) VERFAHREN ZUR ELEKTRISCHEN BODENERFORSCHUNG MITTELS DEM UNDERGRUND INDUKTIV ZUGEFÜHRTER WECHSELSTRÖME UND AUSMESSUNG DES ELLIPTISCH POLARISIERTEN MAGNETISCHEN FELDES DURCH SUCHSPULEN

(METHOD FOR ELECTRICAL INVESTIGATION OF THE GROUND BY MEANS OF ALTERNATING CURRENTS PRODUCED IN THE SUBSOIL BY INDUCTION AND MEASUREMENT OF ELLIPTICALLY POLARIZED MAGNETIC FIELD BY MEANS OF SEARCHING COILS)

(Addition to patent 464,767).

Dr. Richard Ambronn of Göttingen

494,831 Patent issued March 27, 1930.

This patent discloses improvements in the method for electrical investigation of the ground, described in the original patent 454,767, which consist in determining the field component produced by the magnetic whirl as conjugated diameter to that diameter of the ellipse of oscillation of the magnetic vector which corresponds to the magnetic field component produced directly at the point of observation by the alternating current. The measurements are repeated at several frequencies of the alternating current chosen so that the results obtained can be extrapolated to zero frequency.

Claims allowed - 2.

(314) VERFAHREN ZUR ELEKTRISCHEN BODENFORSCHUNG

(METHOD FOR ELECTRICAL INVESTIGATION OF THE GROUND)

Dr. Richard Ambronn of Göttingen

498,912 Patent issued May 28, 1930.

This patent discloses a method for electrical investigation of the ground in which alternating currents of very low frequency (0.3 - 10 per second) are employed and the intensity distribution of which in the current field is measured either directly or by compensation. The measuring instrument used is a galvanometer tuned to the frequency of the sender.

Claims allowed - 3.

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